

NGDA Dataset Report

Official NGDA Title: NOS Hydrographic Surveys Collection

Metadata Record Title: NOS Hydrographic Surveys Collection

A-16 NGDA Theme: Elevation

Executive NGDA Theme Champion(s):

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Dataset Manager(s):

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Metadata:

Registration Status: Complete

Registered on 4/27/2015

GeoPlatform Link*: <https://www.geoplatform.gov/node/243/0d87170a-8ba8-451e-8e56-916823f6cc9a>

Data.gov Metadata Link*: <http://catalog.data.gov/harvest/object/4c270e97-05fc-493b-8a08-55654aceac0d/html>

*If the metadata has been updated and reharvested after publication of this report, the link may no longer be valid. The dataset may be searched for manually in Data.gov or GeoPlatform.gov.

NGDA Lifecycle Maturity Assessment (LMA) Report

Time Frame:

Baseline assessment responses include historical data from the mid-1800s up to current day dataset activities (Sep 2015).

LMA Submission:

Status: Complete

Date: 9/21/2015

Extension Requested: No

LMA Reviewer(s):

Supervisor: Did not review

Theme Lead: Did not review

Executive Champion: Did not review

SAOGI*: Did not review

Other: NOAA coordinator

LMA Verifier:

Name: Anne Ball

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Attachments:

To get access to any attachments referenced in the report, email the LMA Help Desk at NGDA_LMA_help@fgdc.gov. Please use the subject "Dataset Report Attachment(s)" and indicate the associated official NGDA title.

*Senior Agency Official for Geospatial Information (SAOGI)

Lifecycle Maturity Assessment (LMA) Summary

Overall Maturity:

Optimized; Established

General Questions: 100%

Optimized; Established

Stage 1 - Define/Plan: 100%

Optimized; Established

Stage 2 - Inventory/Evaluate: 100%

Optimized; Established

Stage 3 - Obtain: 71%

Mature; Consistent

Stage 4 - Access: 100%

Optimized; Established

Stage 5 - Maintain: 100%

Optimized; Established

Stage 6 - Use/Evaluate: 100%

Optimized; Established

Stage 7 - Archive: 100%

Optimized; Established

NGDA Dataset Maturity Definitions:

How To Calculate Maturity: https://www.geoplatform.gov/sites/default/files/How_to_Calculate_Maturity.pdf

Maturity	Maturity Characteristics for All Lifecycle Stages
Optimized; Established Rank = 5	Dataset meets virtually all business needs of all users. The dataset is considered authoritative by owners and secondary users. It is curated across all stages of the approved lifecycle. Future needs are defined on a regular basis and resources for addressing both current and future business requirements are available.
Mature; Consistent Rank = 4	Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as authoritative by the primary owner. Dataset is used widely by secondary users actively engaged in sustaining the dataset. Future needs are identified and steps are planned to address these. All stages are supported and reviewed on a recurring basis. The dataset is well managed in relation to the approved lifecycle.
Managed; Predictable Rank = 3	Dataset meets a significant number of the business needs of the primary owner and is widely used as an authoritative resource by secondary users. Benchmark activities are occurring in at least four of the approved lifecycle stages. Management practices in relation to the approved lifecycle is moderate but consistent. Dataset is integrating changing business requirements in lifecycle stages impacting overall maturity.
Transition; Transformation Rank = 2	Dataset meets business needs of the primary owner and has moderate use by secondary users. Benchmark activities are occurring in at least three stages. Efforts to integrate funding, include partners, and obtain data are not supported in a sustained manner. Management practices in relation to the stages of the approved lifecycle is limited.
Planned; Initial Development Rank = 1	Dataset limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses, partnerships are forming to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.
No Activity Rank = no activity	Dataset meets project or local business needs of the primary owner, secondary or additional uses or users were not considered, not recognized as an authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.

General Questions for All Stages

1) Is there a recurring process to obtain funding for all lifecycle stages of this dataset?

Answer: Funding support is part of agency budget on a recurring basis, funding is consistent and tied to business processes, and supports all lifecycle stages.

Justification Comment:

Attachment(s): 0

Funding is provided to the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI) via the National Ocean Service (NOS) annually to support NOS data stewardship.

2) Is there a process in place to ensure that open government and transparency guidelines are followed in all lifecycle stages for this dataset?

Answer: Process is published as appropriate with respect to sensitivity requirements, process is transparent, published appropriately.

Justification Comment:

Attachment(s): 0

Sensitivity requirements are outlined in the NCEI - NOS submission agreement. The Chief of the Hydrographic Surveys Division (HSD) along with guidance from the State Historical Preservation Officer determines sensitivity status. National Historic Preservation Act of 1966. Provides authority to the Chief of HSD to label surveys sensitive and therefore non-public.
<http://www.achp.gov/NHPA.pdf>

3) Are there processes and tools in place so that staff are sufficiently knowledgeable to ensure a continuity of the dataset for all stages of the lifecycle, especially during staffing transitions?

Answer: Processes and tools to ensure dataset continuity are in place and implemented for all lifecycle stages.

Justification Comment:

Attachment(s): 0

Records Custodial Unit (RCU) is managed by Dan Kowal at NCEI-Colorado. Ample documentation and pass down information is provided to transition to the next data manager. Documentation covers end-to-end data management SOPs that are reviewed periodically and updated as technology and strategies evolve.

STAGE 1 - Define/Plan

4) Are user and business requirements defined and formalized?

Answer: A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

Justification Comment:

Attachment(s): 0

Refer to the NCEI-NOS Hydrographic Surveys Data Submission Agreement. This document captures data descriptions, points of contact, data submission sessions, archival management, metadata management, data access descriptions and references to support documentation that will service the data collection during its lifecycle. The document is reviewed periodically with stakeholders and updated as necessary to reflect current operations and identify any issues with the archival arrangement.

5) How are partners/stakeholders involved in the requirements collection process?

Answer: A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

Justification Comment:

Attachment(s): 0

NOS Hydrographic Data Manager hosts quarterly stewardship meetings with the sole data provider to include the following entities (Hydrographic Surveys Division, processing branches, and NCEI).

Through the course of normal business practices and interfacing with data users, the data manager elicits data user requirements and suggestions

6) Is there a quality assurance process for the dataset?

Answer: Quality assurance published as appropriate with respect sensitivity requirements.

Justification Comment:

Attachment(s): 0

Data Quality is assured during the survey review process with NOS. The data center uses checksum algorithms and submission manifests upon receipt of data to validate everything that should go to archive. Data Quality measures performed by NOS, as part of their data collection and processing procedures, are specified in the Field Procedures Manual and the Hydrographic Surveys Specifications and Deliverables documents.

http://www.nauticalcharts.noaa.gov/hsd/fpm/2014_FPM_Final.pdf

http://www.nauticalcharts.noaa.gov/hsd/specs/SPECS_2014.pdf

7) Is there a process to evaluate the sensitivity, privacy, and confidentiality of this dataset?

Answer: Sensitivity, privacy, and confidentiality evaluations fully implemented, reviewed and updated on a recurring basis.

Justification Comment:

Attachment(s): 0

Sensitivity status is determined by the Chief of Hydrographic Surveys Division (see question 2). All data and products archived at the data center are screened for sensitivity status prior to archive. No sensitive data is published in the public forum, and are only released per approval and direction from the HSD Chief.

8) Are defined data standards used in collecting, processing, and/or rendering the data?

Answer: Standards fully implemented documented and published as appropriate.

Justification Comment:

Attachment(s): 0

See NOS Survey approval procedures:

http://www.nauticalcharts.noaa.gov/hsd/fpm/2014_FPM_Final.pdf and

http://www.nauticalcharts.noaa.gov/hsd/specs/SPECS_2014.pdf

STAGE 2 - Inventory/Evaluate

9) Is there a process for determining if data necessary to meet requirements already exist from other sources (either within or outside the agency) before collecting or acquiring new data?

Answer: Process for determining appropriate data is being reused fully implemented, reviewed, and updated on a regular basis.

Justification Comment:

Attachment(s): 0

According to the NOS Chief of Operations at the Hydrographic Surveys Division (michael.gonsalves@noaa.gov), they investigate if any surveys have been conducted in an area of interest as part of their routine planning SOPs. NOAA's Office of Coast Survey is doing their best to define their Outside Source Data requirements, which will hopefully generalize the assessment process for a pre-existing survey's suitability to influence whether or not another survey is warranted.

STAGE 3 - Obtain

10) Is there a process for obtaining data in relation to this dataset?

Answer: Process is fully implemented, reviewed and updated on a regular basis.

Justification Comment:

Attachment(s): 0

According to the NOS Chief of Operations at the Hydrographic Surveys Division (michael.gonsalves@noaa.gov), the following annual planning cycle is in effect:

Apr* -- Determine preliminary areas for following year; submit ship time requests with Office of Marine

and Aviation Operations (OMAO) assets (planning to the presidential budget).

May* -- Coordinate with Navigation Response Branch and Remote Sensing Division on survey areas.

Jun/Jul* -- Coordinate with Center for Operational Oceanographic Products and Services (CO-OPS) to refine projects based on tide requirements.

Aug* -- Publish an updated set of Survey Priorities (we're shifting away from a published document: <http://www.nauticalcharts.noaa.gov/hsd/NHSP.htm>).

Sep* -- Hopefully get finalized budget and refine plans with OMAO assets; assess appropriation for contract surveys.

Oct* -- Firm up 3-year survey priorities.

Nov* -- Begin negotiations with surveying firms for next year's projects.

Jan* -- Preliminary projects distributed to OMAO assets; finalizing negotiations with firms.

Feb/Mar* -- Refine, refine, refine
(repeat)

* None of these times are firm. They shift as new priorities emerge; disaster response is needed; or if some platform fails to execute their project.

11) Is the metadata in a FGDC endorsed geospatial metadata standard?

Answer: Metadata is available in a format endorsed by the FGDC, it fully describes the dataset and provides all the information required to make the dataset discoverable, accessible, and usable.

Justification Comment:

Attachment(s): 0

Metadata records for every hydrographic survey are created in ISO 19115-2 standard, and different views of the metadata can be found at the following locations:

1)

<http://www.ngdc.noaa.gov/docucomp/page?view=wafslnGroup&groupName=NOSHhydrographicSurvey>

2) <http://www.ngdc.noaa.gov/geoportal>

12) How complete is the geographic coverage as defined in the requirements for the dataset?

Part 1 Answer: Business requirement targets are on track, milestones are being met.

Part 2 Answer: Dataset is presently less than 25% complete based on current requirement.

Justification Comment:

Attachment(s): 0

The following comes from the Chief of Operations at the Hydrographic Surveys Division (michael.gonsalves@noaa.gov):

"The NOAA Hydrographic Surveys Priorities (NHSP) document circa 2012

(<http://www.nauticalcharts.noaa.gov/hsd/NHSP.htm>) describes there are 3.4 million - square nautical miles (SNM) of waters within the U.S. EEZ, of which 511,000 were deemed navigationally significant.

From there it's difficult to define "complete" or "requirements" in the context of this assessment.

However, according to this report, 39,000 of this 511,000 have been surveyed with modern techniques (~8%), and thus, gives rise to the selection of option 1. NOS HSD periodically updates an SNM

Breakout of NHSP Priority Categories table in their NHSP document to track progress on areas surveyed. Approx. 2-3k SNM are projected to be surveyed per year."

STAGE 4 - Access

13) Do you have a process for providing users access to the data in an open digital machine readable format?

Answer: User access process is fully implemented, data is available, process is reviewed and updated on a recurring basis.

Justification Comment:**Attachment(s):** 0

Open Geospatial Consortium (OGC) Web Map services are available to access the survey data (see available services here: <http://maps.ngdc.noaa.gov/>), and the following links allow human interaction to query and download survey products and information.

Map Viewer:

http://maps.ngdc.noaa.gov/viewers/bathymetry/?layers=nos_hydro&minx=-200&maxx=-50&miny=10&maxy=70

Hydrographic Surveys Page:

<http://www.ngdc.noaa.gov/mgg/bathymetry/hydro.html>

STAGE 5 - Maintain

14) Is there a maintenance process for updating and storing the dataset?

Answer: Dataset maintenance process is fully implemented and processes are reviewed and periodically updated.

Justification Comment:**Attachment(s):** 0

NCEI follows National Archives and Records Administration (NARA) standards and maintains computer and tape storage rooms to the climate-controlled specifications. Second copies of archived data go to an offsite climate-controlled facility maintained by the Data Center, and all data on spinning disk is regularly backed up. Media refresh of archived data occurs within the industry standard guidelines between 5 - 10 years, and has occurred more frequently before 5 years.

15) Is there an error correction process as part of dataset maintenance?

Answer: Error correction process includes user notification, process reviewed on a recurring basis.

Justification Comment:**Attachment(s):** 0

The NCEI - NOS Submission Agreement includes an error definition and handling section that's followed to remediate any errors that are detected both during and after survey data are ingested into the archive. Data product errors are identified by data user community and the data manager is notified via email. Identified errors are remediated by NOS.

STAGE 6 - Use/Evaluate

16) Is there a process to determine if the dataset meets user needs?

Answer: Process is fully implemented and repeated on a recurring basis.

Justification Comment:**Attachment(s):** 0

User feedback is vetted through the data manager and usually via email (hydro.info@noaa.gov). User requests are routed to NOS. Any requests relating to dissemination are handled at the data center level. Cyclical review of the submission agreement provides a forum to discuss any new user needs or track issues to resolve depending upon available resources.

17) Is there a process to provide users information on how to access and properly use the dataset?

Answer: Process is fully implemented supporting access and proper use, process is reviewed on a recurring basis.

Justification Comment:**Attachment(s):** 0

Hydrographic Surveys Website: <http://www.ngdc.noaa.gov/mgg/bathymetry/hydro.html>

Outside of the products provided by NCEI, it is up to the user to understand survey data and use it correctly.

18) Are the business processes and management practices assessed to meet changing technology?

Answer: Assessment process is fully implemented for taking advantage of changing technology, process is reviewed on a recurring basis.

Justification Comment:

Attachment(s): 0

NOS is constantly updating data product offerings to meet the needs of an ever-changing survey world. The Hydrographic Systems and Technology Programs (HSTP) and Coast Survey Development Lab (CSDL) within NOS are continually evaluating new technologies, procedures, and data formats for inclusion into hydrographic survey data.

One example would be that surveys are always processed and reviewed in the latest version of CARIS, one of the predominate software packages used to manipulate survey data. CARIS propriety formats are an identified long-term risk carried by the Archive and noted in the NCEI-NOS submission agreement, and another generic sensor format is under consideration as a potential replacement or augmentation once the designated community agrees to the format and resources are available to support it.

STAGE 7 - Archive

19) Is there an archiving process for the dataset?

Answer: Archival and disposition processes are fully implemented.

Justification Comment:

Attachment(s): 0

Refer to the NCEI-NOS Data Submission Agreement. The document captures the full coverage of archival support, treated as a living document, and is available to NOAA stakeholders. The document is created and maintained as part of the:

https://nosc.noaa.gov/EDMC/documents/NOAA_Procedure_document_final_12-16-1.pdf